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REMARKS

Applicants' representative has amended the specification to cure an informality in the priority claim regarding U.S. Serial No. 08/668,705, wherein the incorrect year date of 1999 has been replaced with 1996. It is noted that correcting this information in the Declaration does not appear to comply with 37 CFR § 1.78 which requires, in part, that the priority claim information be in either the first line of the specification or in an application data sheet. Since the application serial number was properly identified at the time of filing in the application it is submitted that no new matter or issues are raised by this informality correction.

In the specification, page 1, paragraph 1, lines 5-8 have been amended to correct minor editorial problems.

Claims 1-4 and 6-27 are currently pending in the subject application and are presently under consideration. A version of all pending claims is found at pages 3-11. Claims 11, 19 and 22 have been amended herein.

Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

I. Rejection of Claims 11-15 Under 35 U.S.C. §112

Claims 11-15 stand rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. It is respectfully requested that this rejection be withdrawn for the following reason. As suggested by Examiner, independent claim 11 has been amended herein to cure minor informalities and is now believed to be in condition for allowance. In view of the amendment, it is submitted that this rejection should be withdrawn with respect to independent claim 11 and claims that depend therefrom.

II. Rejection of Claims 11-15 and 19 Under 35 U.S.C. §112

Claims 11-15 and 19 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is respectfully requested that this rejection be

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withdrawn for the following reason. As stated *supra*, independent claim 11 has been amended herein and is now believed to be in condition for allowance. Further, as suggested by Examiner, claim 19 has also been amended to correct minor informalities. Accordingly, it is requested, with respect to independent claim 11 (and claims that depend therefrom) and claim 19, that this rejection be withdrawn.

III. Rejection of Claims 22-27 Under 35 U.S.C. §112

Claims 22-27 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is respectfully requested that this rejection be withdrawn for the following reason. Independent claim 22 has been amended herein to cure minor informalities and to further emphasize various aspects of the claimed invention. It is believed that independent claim 22 (and claims that depend therefrom) is now in condition for allowance. Accordingly, this rejection should be withdrawn.

IV. Rejection of Claims 1-2, 4, 7-10 and 17-21 Under 35 U.S.C. §103(a)

Claims 1-2, 4, 7-10 and 17-21 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Kemmer *et al.* (U.S. 4,234,831) in view of Spinner *et al.* (U.S. 5,771,174) and Mizutani (U.S. 5,532,533). It is respectfully requested that this rejection be withdrawn for the following reason. The combination of Kemmer *et al.*, Spinner *et al.*, and Mizutani *et al.* does not make obvious the claimed invention.

To reject claims in an application under §103, an examiner must establish a *prima facie* case of obviousness. A *prima facie* case of obviousness is established by a showing of three basic criteria. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) *must teach or suggest all the claim limitations*. See MPEP §706.02(j). The *teaching or suggestion to make the claimed combination* and the reasonable expectation of success *must be found in the prior art and not based on the*

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Applicant's disclosure. See In re Vaack, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). An examiner cannot establish obviousness by locating references which describe various aspects of a patent applicant's invention without also providing evidence of the motivating force which would impel one skilled in the art to do what the patent applicant has done. *Ex parte Levengod*, 28 USPQ2d 1300 (P.T.O.B.A.&I. 1993) (emphasis added).

Applicants' claimed invention provides an integrated rotary-linear actuator system comprising a control system with a network interface. In particular, independent claims 1 and 17 recite similar claim language, namely, *a control system integrated with the amplifier, the control system having a network interface operative to receive control information, the control system being operative to control the amplifier to selectively energize the coils to effect desired movement of the plunger based on the control information received via the network interface ... the control system and an associated rotary-linear motor are integrated into a single module*. It is apparent that the claimed invention has a network interface operative to receive control information *integrated* within the control system, e.g. the network interface is part of the control system; the network interface is not distinct from the control system. Further, the control system incorporating the network interface, is itself integrated with the rotary-linear actuator, thus creating a single unitary module. Neither Kemmer *et al.*, Spinner *et al.* nor Mizutani, alone or in combination, teach or suggest this functionality.

As Examiner concedes, in the Office Action dated October 3, 2003, Kemmer *et al.*, alone does not teach or suggest a control system having a network interface, the control system having a network interface being integrated with a rotary-linear actuator. To make up for the deficiencies posed by Kemmer *et al.*, Examiner relies upon Spinner *et al.* to provide a "network interfacc." However, the network interface, or gateway, taught by Spinner *et al.* is distinct and separate from the actuating device; the network interface or gateway, in Spinner *et al.*, is located somewhere on a network and is not part of, nor contained within, the control system. Thus, Spinner *et al.*'s network interface is not in anyway integrated or integrally affixed to the control system. Similarly, the control system - the host computer - is not integrally affixed to the actuating device. It is clear therefore that Kemmer *et al.* and Spinner *et al.* neither alone nor in combination teaches

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or suggests applicants' claimed invention.

Examiner in recognition that both Kemmer *et al.* and Spinner *et al.* fails to teach or suggest the claimed invention, provides Mizutani to rectify deficiencies presented by Kemmer *et al.* and Spinner *et al.* Examiner contends that Mizutani in disclosing a control apparatus integrated with a servo motor is sufficient to rectify the deficiencies left open by Kemmer *et al.* and Spinner *et al.* Applicants' representative respectfully disagrees. While Mizutani discloses a control apparatus integrated with a servo motor, Mizutani fails to teach or suggest a control system that integrates a network interface with the control system, and which in turn is integrated with an associated rotary-linear actuator as is recited in the claimed invention. It is apparent therefore that Mizutani does not make up for the deficiencies presented by Kemmer *et al.* and Spinner *et al.* Thus, Kemmer *et al.*, Spinner *et al.* and Mizutani in combination, do not make obvious the claimed invention as recited by applicants. Accordingly, in view of at least the foregoing reasons, withdrawal of this rejection with respect to independent claim 1 and 17 (and claims depending therefrom) is respectfully requested.

V. Rejection of Claims 11-15 Under 35 U.S.C. §103(a)

Claims 11-15 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Sudo *et al.* (U.S. 4,644,205) in view of Spinner *et al.* (U.S. 5,771,174) and Mizutani (U.S. 5,532,533). It is respectfully requested that this rejection be withdrawn for the following reason. The combination of Sudo *et al.*, Spinner *et al.* and Mizutani does not make obvious the claimed invention.

As discussed *supra*, the claimed invention relates to a rotary-linear actuator that incorporates a control system. Independent claim 11 recites *an integrated control system having a network interface operative to receive control information via an associated network ... the integrated control system and an associated rotary-linear motor are integrated into a single module*. In particular, the control system itself integrates, *inter alia*, a network interface in order to receive control information from a network, and the control system is in turn integrated onto the rotary-linear actuator; the rotary-linear actuator, the control system, and the network interface *comprise a single indivisible*

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unitary entity. Neither Sudo *et al.*, Spinner *et al.* nor Mizutani teach or suggest all the claim limitations as recited in applicants' claimed invention.

As Examiner concedes, in Office Action dated October 3, 2003, that Sudo *et al.* neither provides a network interface operative to receive control information *via* an associated network, nor does Sudo *et al.* integrate the control system and rotary-linear actuator within a single model. Sudo *et al.* simply teaches a magnetic positioning device comprising a cylindrical stationary member and a cylindrical floating member that is controlled by a magnetic circuit through a control coil, the magnetic circuit however is controlled through a drive unit that is not integrally affixed to the device to form a single unit. Thus, Examiner attempts to utilize Spinner *et al.* and Mizutani to cure the deficiencies presented by Sudo *et al.* However, as discussed above, neither Spinner *et al.* nor Mizutani provide a rotary-linear actuator that integrates a control system, the control system integrating a network interface, to form a single entity. Therefore it is apparent that Spinner *et al.* and Mizutani are insufficient to overcome the deficiencies presented by Sudo *et al.*

In view of at least the foregoing, the claimed invention is not obvious in view of Sudo *et al.*, Spinner *et al.* and Mizutani, either alone or in combination. Accordingly, withdrawal of this rejection and allowance of claims 11-15 is respectfully requested.

VI. Rejection of Claims 1-10 and 16-21 Under 35 U.S.C. §103(a)

Claims 1-10 and 16-21 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Sudo *et al.* (U.S. 4,644,205) in view of Spinner *et al.* (U.S. 5,771,174), Gerard (U.S. 4,751,437) and Mizutani (U.S. 5,532,533). It is respectfully requested that this rejection be withdrawn for the following reason. The combination of Sudo *et al.*, Spinner *et al.*, Gerard and Mizutani does not make obvious applicants' claimed invention.

As stated *supra*, the claimed invention is a control system that incorporates a network interface; the control system is in turn integrated into a rotary-linear actuator to form a single indivisible unit. Nowhere in Sudo *et al.*, Gerard, Spinner *et al.*, and/or Mizutani is it taught or suggested that a control system with an incorporated network interface can be integrated with a rotary-linear actuator to form a single unit.

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In view of at least the foregoing it is submitted that the subject claimed invention as recited in independent claims 1, 16 and 17 is not obvious in light of Sudo *et al.*, Spinner *et al.*, Gerard and Mizutani, either alone or in combination. Accordingly, it is requested that the rejection with respect to independent claims 1, 16 and 17 and claims that depend therefrom, should be withdrawn.

VII. Rejection of Claims 1-4, 7-10 and 16-21 Under 35 U.S.C. §103(a)

Claims 1-4, 7-10 and 16-21 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Kemmer *et al.* in view of Lee (U.S. 4,692,678) and Mizutani (U.S. 5,532,533). It is respectfully requested that this rejection be withdrawn for the following reason. Applicants' claimed invention is not obvious in view of Kemmer *et al.*, Lee and Mizutani.

As recited above, the subject claimed invention provides a novel control system that incorporates a network interface; the control system, incorporating the network interface, is thereupon integrated into a rotary-linear actuator. Further, as has been discussed *supra*, Kemmer *et al.* and Mizutani fail to teach or suggest a control system that incorporates a network interface, the control system, including the network interface, being integrated with a rotary-linear actuator to form a single unit. While Examiner cites Lee to provide the control system with a network interface that neither Mizutani nor Kemmer *et al.* disclose, Lee simply recites a closed loop control system that is distinct and separate from any particular servo-motor. This is evinced by the fact that in Lee, the closed loop control system is capable of controlling a *multitude of servo-motors*, but the control system itself is not *integrated* onto an *individual servo-motor*. It is apparent therefore, that the closed loop control system as recited in Lee is not *integrated with a servo-motor*, but rather stands distinct, alone and apart, from the servo-motor.

In view of at least the foregoing, the subject invention as recited in independent claims 1, 16 and 17 is not obvious in view of Kemmer *et al.*, Lee and Mizutani, either alone or in combination. Accordingly, withdrawal of this rejection and allowance of independent claims 1, 16 and 17, together with depending claims, is respectfully requested.

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VIII. Rejection of Claims 11-15 Under 35 U.S.C. §103(a)

Claims 11-15 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Sudo *et al.* (U.S. 4,644,205) in view of Lee and Mizutani. It is respectfully requested that this rejection be withdrawn for the following reason. Neither Sudo *et al.*, Lee nor Mizutani, alone or in combination, makes obvious applicants' claimed invention.

As has been discussed *supra*, Sudo *et al.* simply recites a magnetic positioning device comprising a cylindrical stationary member and a cylindrical floating member that is controlled by a magnetic circuit through a control coil, the magnetic circuit being controlled by an external drive unit that is not integrated with the servo motor to comprise a single unit. As Examiner concedes, Sudo *et al.* does not teach or suggest a network interface operative to control information via an associated network, nor does Sudo *et al.* suggest a control system integrated with the associated rotary-linear actuator. Examiner therefore, cites Lee and Mizutani to rectify the deficiencies presented by Sudo *et al.* However, as stated above, neither Lee nor Mizutani make up for the deficiencies inherent in Sudo *et al.* Neither Lee nor Mizutani provide a control system that incorporates a network interface, and that itself is integrated into a rotary-linear actuator to form a single module.

In view of the foregoing, it is submitted that independent claim 11 is not obvious over Sudo *et al.*, Lee and Mizutani, either alone or in combination, and consequently the rejection of independent claim 11 (and claims that depend therefrom) should be withdrawn.

IX. Rejection of Claims 22-27 Under 35 U.S.C. §103(a)

Claims 22-27 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Sudo *et al.* in view of Horikoshi *et al.* (U.S. 5,142,172), Gerard (U.S. 4,751,437) and Spinner *et al.* (U.S. 5,771,174). It is respectfully requested that this rejection be withdrawn for the following reasons. Claim 22 has been herein amended to further emphasize various aspects of the claimed invention and is now believed to be in condition for allowance. Moreover, the combination of Sudo *et al.*, Horikoshi *et al.*,

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Gerard, and Spinner *et al.* does not make obvious the invention as claimed.

As has been stated *supra*, the claimed invention provides for an integrated rotary-linear actuator system comprising a control system with a network interface incorporated there within, the control system being an integral part of the rotary-linear actuator. In particular, independent claim 22 recites ***a control system and a network interface integrated into a single module, the control system integrated with a rotary-linear actuator, the network interface receiving and transmitting at least one of control and diagnostic information to an associated network.*** Sudo *et al.*, Horikoshi *et al.*, Gerard and/or Spinner *et al.*, neither alone or in combination teaches or suggests this novel aspect.

As Examiner clearly concedes, Sudo *et al.* is deficient on many grounds, but in particular, Sudo *et al.* does not teach ***a control system and a network interface integrated into a single module, the control system integrated with a rotary-linear actuator, the network interface receiving and transmitting at least one of control and diagnostic information to an associated network.*** In order to rectify this particular deficiency, Examiner cites Spinner *et al.* to suggest a control system that includes a network interface that is integrated into the control system itself. However, as has been discussed above, Spinner *et al.* does not teach or suggest a control system that incorporates a network interface with the control system being integrated within a rotary-linear actuator. Thus, the combination of Sudo *et al.*, Horikoshi *et al.*, Gerard and Spinner *et al.*, contrary to Examiner's contention, does not teach or suggest each and every claim element as recited in independent claim 22, and consequently applicants' claimed invention is not obvious in light of the cited references. Accordingly, in view of at least the foregoing, it is respectfully requested that the rejection of independent claim 22 together with the claims that depend therefrom, should be withdrawn.

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CONCLUSION

The present application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063.

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicant's undersigned representative at the telephone number listed below.

Respectfully submitted,

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